

RAIN ATTENUATION COMPENSATION METHOD USING ADAPTIVE  
TRANSMISSION TECHNIQUE AND SYSTEM USING THE SAME

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ABSTRACT OF THE DISCLOSURE

A rain attenuation compensation method using adaptive transmission  
10 technique and system using the same compensate a signal attenuation caused by rain in a  
satellite communication system through an adaptive transmission technique. As an  
adaptive transmission technique, the method and apparatus employ an adaptive coding  
using a block turbo code and an adaptive modulation using M-ary PSK modulation. The  
inventive method estimates a signal-to-noise (S/N) ratio at a receiving end, predicts a  
15 signal-to-noise (S/N) ratio at the next time point, allocates the most appropriate  
transmission method to the predicted signal-to-noise (S/N) ratio, thereby adaptively  
compensating a rain attenuation. The rain attenuation compensation method includes: the  
steps of estimating a signal-to-noise (S/N) ratio from PSK-modulated receiving signal at a  
receiving end; predicting a signal-to-noise (S/N) ratio of the next time point on the basis of  
20 the signal-to-noise (S/N) ratio values of the past and present time points; determining  
which of transmission methods is adequate to the predicted signal-to-noise (S/N) ratio of  
the next time point. If the switching of the transmission method is determined, a control  
signal for inquiring the change of the transmission method is transmitted to a transmitting  
and a receiving end. Then, data is transmitted by the switched transmission method.

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